

02/12/2003

2

AN 1996-124199 [13] WPIDS
DNN N1996-104400 DNC C1996-038828
TI Proton-conductive solid **polymer electrolyte** for fuel
cells - obtd. by compounding **block-graft copolymer**
based on styrene and proton-contg cpds..
DC A85 L03 X12 X16
PA (SHIE) SHINETSU CHEM IND CO LTD
CYC 1
PI JP 08020704 A 19960123 (199613)* 6p
JP 3111817 B2 20001127 (200102) 6p
ADT JP 08020704 A JP 1994-179484 19940707; JP 3111817 B2 JP 1994-179484
19940707
FDT JP 3111817 B2 Previous Publ. JP 08020704
PRAI JP 1994-179484 19940707
AN 1996-124199 [13] WPIDS
AB JP 08020704 A UPAB: 19960329

Proton-conductive solid **polymer electrolyte** is obtd.
by compounding (a) **block-graft copolymer** having a
degree of polymerisation of at least 310 and (b) proton-containing cpds.

(a) is composed of at least one block chain A having a degree of
polymerisation of at least 10 and consisting of repeat units of formula
(I) and at least one polymer block chain B having a degree of
polymerisation of at least 300 and consisting of repeat units of formula
-(CH₂-C(R₄)(M))- (II). In the formulae, R₁ = H, CH₃ or C₂H₅; R₂ = H or
CH₃; R₃ = H, alkyl, aryl, acyl or silyl; n = 1-45; the number average mol.
weight of graft chain of formula -(CH₂-CH(R₂)-O)_n-R₃ (III) in formula (I) is
45-2,000; R₄ = H, CH₃, or C₂H₅; M = -CH=CH₂-, -CH(CH₃)=CH₂-, -COOCH₃,
-COOC₂H₅, phenyl or substd. phenyl. The weight ratio of the block chain A to
the block chain B is 1:30-30:1.

USE - The solid **polymer electrolyte** is used in
fuel cells.

ADVANTAGE - The solid **polymer electrolyte** has
high proton conductivity and membrane strength.
Dwg.0/0